



## **WATER RESOURCES RESEARCH GRANT PROPOSAL**

**Project ID:** 2005HI125G

**Title:** Coastal Groundwater Management in the Presence of Positive Stock Externalities

**Project Type:** Research

**Focus Categories:** Hydrology, Economics, Ecology

**Keywords:** Coastal Aquifers, Estuarine Ecosystems, Groundwater Externalities

**Start Date:** 09/01/2005

**End Date:** 08/31/2008

**Federal Funds:** \$148,021

**Non-Federal Matching Funds:** \$184,150

**Congressional District:** HI 1

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**Abstract**

Methodologies exist for groundwater management where aquifers are exhaustible and groundwater extraction can lead to well salinization. Also, management with substitute freshwater sources such as desalting of saltwater from wells or the sea has been previously examined. These methodologies focus on the benefits of groundwater to water consumers. However, in coastal areas, groundwater also provides ecosystem services that have not been incorporated into groundwater management strategies. A notable example is the discharge of freshwater to nearshore environments. This project will provide a methodology for maximizing the value of groundwater, where the stock of groundwater affects the health of nearshore ecosystems.